**Learning Activity 3- Similar Figures**

I created this learning activity for one of my sixth grade students who struggles in math. I am going to do this activity prior to the lesson given by the regular classroom teacher, in order to give her a solid knowledge base that she can build on in the future. I will be doing this activity in the middle school library right after school.

I will start out by reviewing content from the previous lessons on ratios and proportions and then access her prior knowledge about similar figures. We will discuss the term similar figure and whether or not she has heard the term before. I will then share the definition and a few real-world examples of when we use similar figures. Next, I will ask her to give examples of similar figures she has seen in the past or even used herself. After our discussion, I will show her a BrainPop clip on my iPad. After the video, she will complete the quiz for an early assessment in order to determine if there is anything that I need to go over again before the next step in the activity. Next, we will be using the Noteability app on the iPad to create digital notes about similar figures as well as examples that can be emailed and printed for her to use in the classroom later. The notes will cover what similar figures are, how we use them in the real world, how they relate to ratios, and how to cross multiply and solve proportions with an unknown variable to determine the missing sides of the figures. I will then give her problems to complete on the whiteboard to practice these concepts. As a formative assessment, I will have her complete problems on IXL.com without assistance. I will be able to see misconceptions in her understanding by seeing what choices she makes when she is answering the questions on the website. I plan to ask her why she is choosing her answer and for her to explain her thinking. This way, I can see if she truly understands the content. I will not have to teach my student how to use the technology incorporated in this activity because she will already be familiar with it because of using it with the first learning activity.

The learning objectives for my student will be the following:

* Student will know that similar figures have the same shape and angles but not necessarily the same size.
* Students will know that any corresponding sides in two figures have a common ratio called a scale factor.
* Students will know how to cross multiply a proportion in order to solve for a missing side length in a set of similar figures.
* Students will be able to give real-world examples of when similar figures are used.

The Common Core and Technology Standards that are met in this lesson are the following:

6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6-8.TC.6. use accurate technology terminology

6-8.TC.2. use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of technology-produced materials

Technology will be used in a variety of ways during this learning activity. I will be using the BrainPop app on the iPad to engage the student in the early stages of the activity. I will also be using the iPad to create digital notes that I can email to the student. This is a great tool to use because the notes will be available to print anytime in case they are lost. IXL.com is a great tool to use for formative assessments. It allows the students to practice problems. If they get them wrong, the website shows them step by step how to complete the problem the right way. Using these kinds of technologies allows me to be more engaging to the students because I can teach the information in a variety of ways. It also allows me to change up the activities in the lesson so that she is not doing one thing the whole time, helping her to stay focused and on task.

I feel very confident teaching this activity with this specific content regarding similar figures. I have taught it in the past, but not using technology… As the teacher, it is important to really understand how similar figures relate to ratios and proportions and how we use them in our daily lives. It is also important to know that proportions can be used to solve for a missing quantity in a set of similar figures. I feel like I have a good understanding of the content and I feel able to relate the content to my student. I also feel very able to use the pieces of technology I chose for this activity. I use my iPad all the time for BrainPop video clips and for note-taking. I also am very familiar with IXL.com and I use it often with all of my other students. It covers every grade and gives practice problems for all of the common core standards. It is important that I have a solid understanding of how to use the technology I incorporated in my lesson so that I can have a smooth activity and a better learning outcome.

As mentioned above, I am planning on teaching this prior to the regular classroom teacher’s instruction in order to give her a solid foundation about similar figures, hoping that she will be able to get a deeper understanding of the content when it is presented in the classroom. This particular student struggles in math and does not do well when the material is just taught as a whole group lesson. She is shy and doesn’t like to ask questions, so I think the one-on-one will be great for her. She also has a hard time staying focused and on task, so that is why I chose to do a variety of activities. Our session is only an hour long, but after a full school day, kids are tired, hungry, and sometimes just wanting to go home. I like to keep the activities short and change them up so that they don’t have time to get bored. I have found this strategy to be very effective and my students tend to stay on task the entire session.

**Learning Activity Rubric**

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| --- | --- | --- | --- | --- | --- |
| **Category** | **3 Points** | **2 Points** | **1 Point** | **0 Points** | **Score** |
| **Activity Description** | There is a very clear and detailed description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a fairly clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a general description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There isn’t a clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. |  |
| **Technology Integration** | The plan clearly states how technology will be used to enhance learning. The plan also indicates how students will be supported during the project. | The plan states how technology will be used in the learning environment. The plan mostly indicates how students will be supported during the project. | There is a general statement about how technology will be used. The plan partially indicates how students will be supported during the project. | There is not a clear statement about how technology will be used. The plan doesn’t indicate how students will be supported during the project. |  |
| **Learning Objective** | There is a clear connection between the design of the activity and the stated learning objectives. The activity is well suited to help students meet the stated objectives. | There is a connection between the design of activity and the stated learning objectives. The activity is mostly suited to help students meet the stated objectives. | There is a minimal connection between the design of the activity and stated learning objectives. The activity is partially suited to help students meet the stated objectives. | There isn’t a clear connection between the design of the activity and the stated learning objectives. The activity is not suited to help students meet the stated objectives. |  |
| **Connection to Standards** | Several relevant content and technology standards are stated in the learning objective. | Some relevant content and technology standards are stated in the learning objective. | Very few relevant content and technology standards are stated in the learning objective. | No relevant content and technology standards are stated in the learning objective. |  |
| **Student Prior Knowledge** | Student prior knowledge and skills have been taken into consideration and adequate support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has mostly been taken into consideration and some support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has partially been taken into consideration and support has been designed into the activity on a limited basis. | Student prior knowledge and skills have not been adequately factored into the planning of the activity. |  |
| **Content Knowledge** | All of the content knowledge (CK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Pedagogical Knowledge** | All of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Technology Knowledge** | All of the technology knowledge (TK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **TPACK Analysis** | The learning activity includes a logically supported rationale for the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for most of the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for some of the technological and pedagogical decisions made throughout. | The learning activity does not include a logically supported rationale for the technological and pedagogical decisions made throughout. |  |
| **Assessment** | An adequate assessment plan has been created that clearly outlines how students and/or their work will be assessed. | An adequate assessment plan has been created that outlines how students and/or their work will be assessed. | An assessment plan has been created that mostly outlines how students and/or their work will be assessed. | An adequate assessment plan is not provided. |  |
| **Grammar & Spelling** | There are no spelling or grammar errors. | There are a few spelling and grammar errors. | There are several spelling and grammar errors. | There are multiple spelling and grammar errors. |  |

**Comments:**

**Score: 33/33**